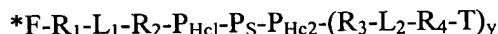


**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 1-40, 42, 43, 45-48, 53, 58, 61, 63, 67-70, and 72-113 without prejudice. Please amend the claims as indicated below.

1-40. (Canceled).

41. (Currently Amended) A library consisting of a plurality of water-soluble peptidic substrates, wherein each peptidic substrate member of the library has the general formula:



wherein \*F is a detectable moiety with a molecular weight of less than 5 kD;

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are each, independently: a covalent bond or a covalent linkage consisting of a branched or unbranched, substituted or unsubstituted, saturated or unsaturated chain of 1-10 carbon atoms; 0-3 heteroatoms selected from the group consisting of oxygen, nitrogen, and sulfur; and further consisting of at least one linkage chosen from the group consisting of ether, ester, hydrazone, amide, thioether, thioester, thiourea, disulfide and sulfonamide linkages;

L<sub>1</sub> and L<sub>2</sub> are each independently: a branched or unbranched, hydrophilic, water-soluble, uncharged polymer and each of L<sub>1</sub> and L<sub>2</sub> independently are of molecular weight of less than ~~about~~ 2000 Daltons;

P<sub>Hcl</sub> is a peptide with the general formula A<sub>c</sub>(A<sub>H</sub>)<sub>n</sub>A<sub>m</sub>,

wherein A<sub>c</sub> is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine;

each of  $A_H$  is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

$n$  is an integer from 0 to 10;

$A_m$  is selected from the group consisting of a covalent bond and methionine;

$P_{Hc2}$  is a peptide with the general formula  $A_m(A_H)_nA_c$ ,

wherein  $A_c$  if  $y$  is 1, is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine; or, if  $y$  is 0, is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, and sulfonic acid moieties;

each of  $A_H$  is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

$n$  is an integer from 0 to 10;

$A_m$ , is selected from the group consisting of a covalent bond and methionine;

$P_s$  is a peptide from 5 to 25 amino acids in length;

$T$  is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, sulfonic acid moieties, quencher moieties, and detectable moieties;  
and

$y$  is 0 or 1.

42. (Canceled).

43. (Canceled).

44. (Original) The library of claim 41 wherein, for each member of the library,  $R_2$  is attached to the C-terminus of the peptidic portion of the molecule.

45. (Canceled).

46. (Canceled).

47. (Canceled).

48. (Canceled).

49. (Original) The library of claim 41 wherein, for each member of the library, \*F is selected from the group consisting of a fluorescent moiety, a chromogenic moiety, and a chemiluminescent moiety.

50. (Original) The library of claim 41 wherein, for each member of the library, \*F is a fluorescent moiety.

51. (Original) The library of claim 50 wherein the fluorescent moiety is selected from the group consisting of BODIPY<sub>630/650</sub> X-SE, Texas Red X-SE, BODIPY TRX-SE, Cy-dyes, Lissamine, fluorescein, rhodamine, phycoerythrin, and coumarin.

52. (Original) The library of claim 41 wherein, for each member of the library, at least one of L<sub>1</sub> or L<sub>2</sub> is polyethylene glycol.

53. (Canceled).

54. (Previously Presented) The library of claim 41 wherein, for each member of the library, at least one of L<sub>1</sub> or L<sub>2</sub> has a molecular weight of less than about 1500 Daltons.

55. (Original) The library of claim 41 wherein, for each member of the library, at least one of L<sub>1</sub> or L<sub>2</sub> has a molecular weight of from about 500 to about 1500 Daltons.

56. (Original) The library of claim 41 wherein, for each member of the library, at least one of  $L_1$  or  $L_2$  has a molecular weight of from about 800 to about 1000 Daltons.

57. (Currently Amended) The library of claim 41 wherein, for each member of the library, at least one of  $L_1$  or  $L_2$  is a polyethylene glycol having a molecular weight from about 230 to less than ~~about~~ 2000 Daltons.

58. (Canceled).

59. (Original) The library of claim 41 wherein, for each member of the library,  $R_2$  comprises a thioether linkage.

60. (Canceled).

61. (Canceled).

62. (Original) The library of claim 41 wherein, for each member of the library, for at least one of  $P_{Hc1}$  and  $P_{Hc2}$ , Ac comprises cysteine.

63. (Canceled).

64. (Original) The library of claim 41 wherein, for each member of the library,  $P_{Hc1}$ , has a different net charge than  $P_{Hc2}$ .

65. (Original) The library of claim 41 wherein, for each member of the library,  $P_{Hc1}$  has a negative net charge and  $P_{Hc2}$  has a positive net charge.

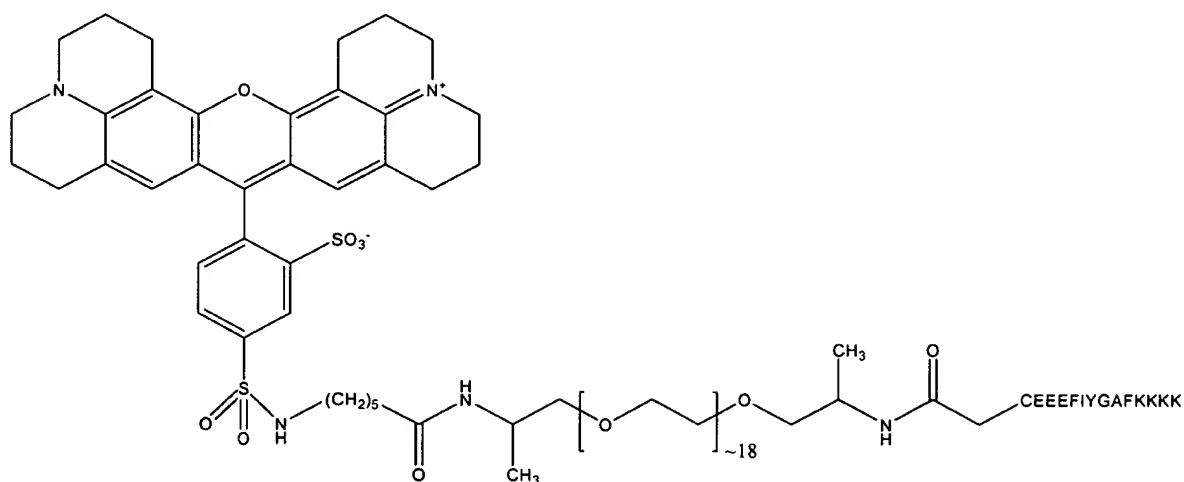
66. (Original) The library of claim 41 wherein, for each member of the library,  $P_{Hc1}$  has a positive net charge and  $P_{Hc2}$  has a negative net charge.

67-70. (Canceled).

71. (Original) The library of claim 41 wherein, for each member of the library, y is 0.

72-113. (Canceled).

114. (Previously Presented) A water-soluble peptidic substrate of the general formula:



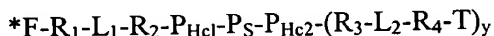
115. (Previously Presented) The library of claim 41, wherein L<sub>1</sub> is PEG and L<sub>2</sub> is PEG.

116. (Withdrawn) The library of claim 41, wherein L<sub>1</sub> is a polysaccharide and L<sub>2</sub> is PEG.

117. (Previously Presented) The library of claim 41, wherein L<sub>1</sub> is PEG and L<sub>2</sub> is a polysaccharide.

118. (Withdrawn) The library of claim 41, wherein  $L_1$  and  $L_2$  are each a polysaccharide.

119. (Currently Amended) A library consisting of a plurality of water-soluble peptidic substrates, wherein each peptidic substrate member of the library has the general formula:



wherein \*F is a detectable moiety with a molecular weight of less than 5 kD;

$R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are each, independently: a covalent bond or a covalent linkage consisting of a branched or unbranched, substituted or unsubstituted, saturated or unsaturated chain of 1-10 carbon atoms; 0-3 heteroatoms selected from the group consisting of oxygen, nitrogen, and sulfur; and further consisting of at least one linkage chosen from the group consisting of ether, ester, hydrazone, amide, thioether, thioester, thiourea, disulfide and sulfonamide linkages;

$L_1$  and  $L_2$  are each independently: a branched or unbranched, hydrophilic, water-soluble, uncharged PEG polymer and each of  $L_1$  and  $L_2$  are independently of molecular weight of less than about 2000 Daltons;

$P_{Hc1}$  is a peptide with the general formula  $A_c(A_H)_nA_m$ ,

wherein  $A_c$  is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine;

each of  $A_H$  is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

$n$  is an integer from 0 to 10;

$A_m$  is selected from the group consisting of a covalent bond and methionine;

$P_{Hc2}$  is a peptide with the general formula  $A_m(A_H)_nA_c$ ,

wherein  $A_c$  if  $y$  is 1, is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine; or, if  $y$  is 0, is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, and sulfonic acid moieties;

each of  $A_H$  is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

$n$  is an integer from 0 to 10;

$A_m$ , is selected from the group consisting of a covalent bond and methionine;

$Ps$  is a peptide from 5 to 25 amino acids in length;

$T$  is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, sulfonic acid moieties, quencher moieties, and detectable moieties;  
and

$y$  is 0 or 1.